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2013 Annual Report

Massachusetts Vehicle Check Inspection and Maintenance Program

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2013 Annual Report

Massachusetts Enhanced Inspection and Maintenance Program

1 EXECUTIVE SUMMARY

This Annual Report is required by Environmental Protection Agency (EPA) under 40 CFR 51.366. This regulation requires that annual reports cover four categories of information:¹

- Station and inspector oversight,
- Quality control,
- Compliance and enforcement, and
- Emissions test data.

2013 was the fifth full year of operation for Massachusetts Vehicle Check, the Commonwealth's updated Inspection and Maintenance (I&M) Program.

The Massachusetts Department of Environmental Protection (MassDEP) and the Massachusetts Department of Transportation's Registry of Motor Vehicles Division (RMV) jointly administer the Massachusetts Vehicle Check Program. In January 2008, the Commonwealth contracted with Parsons Commercial Technology Group, Inc. (now Parsons Environmental & Infrastructure Group Inc.) (Contractor) to manage and implement the Vehicle Check Program. The contract implements program changes for vehicle inspections starting October 1, 2008. The current program continues important features of the I&M Program that were implemented from October 1999 through September 30, 2008, as well as adding new features. The Massachusetts Vehicle Check is a comprehensive vehicle emissions and safety testing program including:

- Inspections provided by a decentralized network of inspection stations;
- Stations and inspectors licensed by the Commonwealth;
- Annual safety tests;
- Commercial vehicle safety inspections that meet U.S. Department of Transportation requirements, so these vehicles only need one comprehensive check;
- An annual On-Board Diagnostic (OBD) emissions test for vehicles that are equipped with OBD systems (vehicles 15 or more years old are exempt);
- An annual opacity test for emissions for diesel vehicles model year 1984 and newer greater than 10,000 lbs. gross vehicle weight rating (GVWR) that are not equipped with OBD;
- A safety test and any applicable emissions test upon transfer of ownership;

¹ See "Attachment A: Index of Report Pages Relevant to EPA Regulation Sections" for details about where specific required items appear in this report.

- A requirement that vehicles that fail their initial emissions test be repaired and pass a re-test within 60 days;
- Waiver eligibility, for a one-year waiver of the emissions standards, for certain vehicles that fail their emissions test after being repaired by a state-registered repairer;
- An “economic hardship” extension for vehicles that failed their emissions test and require replacement of a major (and expensive) component to pass, giving the vehicle owner one year to finance repairs or replace the vehicle;
- Twelve Motorist Assistance Centers (MACs) located across the state to provide information to motorists, technical assistance to repair technicians, help with getting vehicles “ready” for testing after emissions repairs, vehicle evaluations for repair waivers and economic hardship extensions, and vehicle testing quality assurance;
- An inspection fee of \$29, unchanged since 1999; and
- Market-based fees for commercial vehicle inspections.

The Agencies amended the program’s implementing regulations (MassDEP at 310 CMR 60.02, and RMV at 540 CMR 4.00-4.09) to incorporate these changes in September 2008, and the updated program started operation on October 1, 2008. A revision to the Massachusetts State Implementation Plan (SIP), reflecting the changes to MassDEP and RMV regulations, was submitted to EPA in June 2009, with a minor revision in November, 2009. The regulatory changes received EPA approval effective March 26, 2013.

This report covers the period between January 1, 2013 and December 31, 2013.

1.1 Major Findings

Emissions Tests Conducted

In 2013, an annual emissions test was required for the majority of the fleet. The following non-diesel² vehicles required an OBD test:

- Vehicles in model years 1999-2007 weighing 8,500 lbs. GVWR or less,
- Model year 2008 and newer vehicles weighing 14,000 lbs. GVWR or less.

The following diesel vehicles required an OBD test:

- Vehicles in model years 1999-2006 weighing 8,500 lbs. GVWR or less,
- Model year 2007 and newer vehicles weighing 14,000 lbs. GVWR or less.

Heavy duty diesel vehicles (weighing over 10,000 lbs. GVWR) with model year 1984 or newer that were not subject to the OBD test required an opacity test.

² A diesel vehicle is defined as a vehicle powered by an engine using a compression ignition thermodynamic cycle. Non-diesel vehicles are typically fueled with gasoline, including hybrids, but may also be powered by alternative fuels such as natural gas.

An emissions test was also required when a vehicle meeting any of the above requirements changed ownership or had its registration transferred to Massachusetts from another state.

In 2013, there were approximately 4.72 million vehicles registered in Massachusetts. From January 1, 2013 through December 31, 2013, the I&M Program conducted 3,792,605³ emissions tests, including initial tests and retests. 3,598,964 unique vehicles (76% of the Massachusetts fleet) received an initial emissions test in 2013. Of these vehicles, 3,481,900 were non-diesel fueled (e.g., gasoline, natural gas, etc.) and 117,064 were diesel fueled.

Motorist Compliance and Enforcement

Of the 3,481,900 non-diesel vehicles complying with program requirements and receiving an initial OBD test in 2013, 215,348 (6.2%) failed their initial test. Of the 24,705 diesel vehicles receiving an initial OBD test, 1,722 (7.0%) failed their initial test. Of the 92,359 diesel vehicles receiving an initial opacity test, 1,561 (1.7%) failed their initial test.

Of all non-diesel vehicles tested, 29,266 (0.8%) did not comply with program requirements and pass a subsequent retest, or receive a waiver or hardship extension by March 31, 2014. Seven waivers from the requirement that failing vehicles pass an emissions re-test were granted in 2013 (less than 0.1% of vehicles failing initial emissions tests), along with 59 economic hardship extensions. Of all diesel vehicles receiving an OBD test, 191 (0.8%) did not pass a subsequent retest by March 31, 2014.

Vehicles failing to receive safety inspections or emissions tests when required are subject to enforcement by RMV as well as state and local law enforcement agencies.

Station and Inspector Oversight

In 2013, RMV performed 8,382 site audits to determine if program inspectors were correctly performing all safety and emissions tests and if the station's physical conditions continued to meet program requirements. All stations operating throughout the year received at least one visit. Based on the results of the site audits and other data, RMV held 280 hearings for stations and issued 336 adverse actions against stations (e.g., warning letters, license revocations or license suspensions).

In 2013, 6,966 licensed inspectors performed at least one test. Based on the results of the site audits and other data, RMV held 253 hearings for inspectors, and issued 289 adverse actions against inspectors (e.g., warnings, license revocations or license suspensions).

MassDEP and the Attorney General's Office complement RMV enforcement actions where there is substantial or repeat noncompliance by a station or inspector. In 2013, six enforcement cases against five inspectors and three stations were settled for a total of

³ The 3,792,605 emissions tests reflects one initial test for the year for each vehicle, even though some vehicles go through the emissions test cycle more than once because of off-cycle tests at change of ownership.

\$156,025 in assessed penalties. In one of the cases, the defendant was also sentenced to sixty days in the House of Corrections, five years of probation, and prohibited from being involved with motor vehicle inspections or handling or using RMV documents.

2013 Program Changes

There were no significant program changes in 2013.

1.2 Contents of This Report

Section 2 of this report describes the Massachusetts I&M Program and provides information on the number of vehicles covered, inspection stations and inspectors, and types of emissions tests administered. The remaining sections of the report describe specific aspects of the program:

- Motorist Compliance with Testing Requirements (Section 3)
- Performance of Emissions Test Equipment (Section 4)
- Station and Inspector Oversight (Section 5)

The attachments to this report contain detailed data on vehicles tested, results of emissions tests, and audit results:

- Attachment A: Index of Report Pages Relevant to EPA Regulation Sections
- Attachment B: 2013 Detailed Emissions Test Data (see data disk)
- Attachment C: 2013 Test Data by Station (see data disk)
- Attachment D: 2013 Quality Control Report

2 THE MASSACHUSETTS I&M PROGRAM

2.1 Why Does Massachusetts Have an I&M Program?

In 2012 EPA designated Dukes County (Martha's Vineyard and the Elizabeth Islands) as non attainment for the 2008 8-hour ozone standard (0.075 ppm), and designated the remainder of the Commonwealth as unclassifiable/attainment. To maintain the air quality improvements that have been made, Massachusetts must continue to implement a variety of federally mandated programs.⁴ To reduce pollution from motor vehicles, Massachusetts is required to operate an Enhanced Inspection and Maintenance (I&M) program. EPA sets minimum standards for I&M programs.⁵

The current Massachusetts I&M Program was authorized by the Legislature by Chapter 210 of the Acts of 1997. The Department of Environmental Protection (MassDEP) and the Department of Transportation's Registry of Motor Vehicles Division (RMV) jointly administer the Massachusetts Vehicle Check Program. The program's goals are to implement a comprehensive test that provides the emission reductions needed for the Massachusetts SIP, provide convenience to motorists, ensure vehicle safety, and work well in local inspection shops. To maximize customer convenience, the legislation combines emissions and safety testing, and requires that the combined test be delivered in local inspection stations, convenient to where people live and work.

In January 2008, the Commonwealth contracted with Parsons Commercial Technology Group, Inc. (now Parsons Environmental & Infrastructure Group Inc.) (Contractor), to supply inspection equipment and operate the Massachusetts I&M Program. The current program started operation on October 1, 2008. This report describes the program in 2013.

2.2 Vehicles Subject to Inspection

40 CFR 51.366 (d) (1) (i): An estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the registration data base;

In 2013, there were approximately 4.72 million vehicles with active registrations in the Massachusetts fleet. Each vehicle registered in Massachusetts must be inspected annually. All vehicles must receive a safety inspection every year, and the vast majority must also receive an emissions test every year. In addition, vehicles are required to receive a safety and an emissions inspection within seven days of transfer of ownership, or within seven days of their initial Massachusetts registration when transferring registration from another state.

⁴ These programs are established in legally binding and federally enforceable "State Implementation Plans" or "SIPs."

⁵ 40 CFR Part 51, Subpart S (§51.350 et seq.).

In 2013, non-diesel⁶ vehicles were exempted from the emissions inspection if they were:

- Light duty vehicles older than model year 1999,
- Medium duty vehicles older than model year 2008, and
- Heavy duty vehicles not equipped with an On-Board Diagnostic (OBD) system.

Diesel vehicles were exempted from the emissions inspection in 2013 if they were:

- Light duty vehicles older than model year 1999,
- Medium duty vehicles with a gross vehicle weight rating (GVWR) of 10,000 lbs. or less and older than model year 2007, and
- Heavy duty vehicles with a GVWR of more than 10,000 lbs and older than model year 1984.

Also exempt were vehicles of any type that were less than one year old and still registered to the original owner.

2.3 Inspection Stations

40 CFR 51.366 (b) ⁷ (1): The number of inspection stations and lanes: (i) Operating throughout the year; and (ii) Operating for only part of the year;

Most Massachusetts vehicles receive their inspections at local public stations. The program also allows owners of vehicle fleets to purchase their own testing equipment so they can test their own vehicles. The number of public and fleet stations fluctuates slightly from month to month, as businesses join or leave the program.

In 2013, 1,641 stations conducted emissions tests throughout the year, and another 197 conducted tests during part of the year. There were 1,695 “workstations” or sets of inspection equipment used for testing emissions throughout 2013, and 179 workstations used for testing emissions during part of the year. A small number of inspection stations have more than one workstation. In Massachusetts, the number of workstations is equivalent to the number of lanes in a centralized testing program. Table 1 shows the numbers of workstations and stations testing emissions throughout the year and for part of the year.

At any given time, some of the workstations and stations are not operating, due to factors such as station renovation, or change of ownership or location. Table 1 also shows that the number of workstations and stations testing in any given month is fewer than the total

⁶Non-diesel vehicles are typically fueled with gasoline, including hybrids, but may also be powered by alternative fuels such as natural gas.

⁷For all references to 40 CFR 51.366: 57 FR 52987, Nov. 5, 1992, as amended at 61 FR 40945, Aug. 6, 1996; 65 FR 45534, July 24, 2000; 66 FR 18178, Apr. 5, 2001.

number of workstations and stations, as seen by the number of stations and workstations testing in December.

Table 1: Number of Stations and Workstations Testing Emissions in 2013

	Workstations	Stations
Testing All Year	1,695	1,641
Testing for Part of Year	179	197
Total During Year	1,874	1,838
Testing in December	1,813	1,763

Table 2 shows the breakdown of fleet and public stations.

Table 2: Public and Fleet Stations in 2013

	Public	Fleet	Total Stations
Testing All Year	1,545	96	1,641
Testing for Part of Year	150	47	197
Total During Year	1,695	143	1,838
Testing in December	1,636	127	1,763

In Tables 1 and 2, a station or workstation must have conducted emissions inspections in each month in 2013 to be counted as “testing all year.” Stations or workstations that were licensed for the entire year, but did not test in one or more months are considered “testing for part of the year,” as are stations that entered or left the program during the year.

2.4 Inspectors

40 CFR 51.366 (b) (5): The number of inspectors licensed or certified to conduct testing;

At the close of calendar year 2013 there were 7,545 trained and licensed inspectors certified to conduct emission tests (see Table 3). However, in 2013 only 6,907 inspectors conducted emissions tests and 6,966 inspectors tested at least one vehicle for safety or safety plus emissions.

**Table 3: Number of Inspectors
January 1, 2013 through December 31, 2013**

	#Inspectors
Inspectors Trained And Licensed on December 31, 2013	7,545
Inspectors Who Inspected at Least One Vehicle in 2013	6,966
Inspectors Who Tested Emissions in 2013	6,907

2.5 Emissions Tests Administered

The Massachusetts I&M Program uses the vehicle’s OBD system for emissions testing of most vehicles. These systems include computers and sensors that assess the condition of the vehicle’s emissions control systems. The emissions test accesses the OBD system in these vehicles to find out whether the emission control system is working properly. The Massachusetts I&M Program started passing or failing all non-diesel vehicles equipped with modern OBD systems (i.e., OBD II) based on the data in those systems on June 14, 2004. The program that started on October 1, 2008 continued using OBD tests for non-diesel vehicles, and added OBD testing for diesel vehicles that are equipped with these systems.

Massachusetts has used a snap acceleration opacity test for heavy duty diesel vehicles since 2001 (except between August 2008 and October 2009, when the new program contractor was preparing, testing, and installing new diesel testing equipment and related software).

3 MOTORIST COMPLIANCE WITH TESTING REQUIREMENTS

3.1 Overall Motorist Compliance with Testing Requirements

40 CFR 51.366 (d) (1) (ii): The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles;

Table 4 summarizes the overall compliance rate for 2013, which compares the total number of unique vehicles receiving an I&M test (including safety-only tests) to the number of unique registered vehicles that were estimated to be due for an inspection during this period.

Table 4: 2013 Overall Testing Compliance Rates

	Vehicle Count	Compliance %
Average Number of Vehicles Registered in MA in 2013	4,720,782	
Unique Vehicles Tested in 2013 (Safety Only or Safety and Emissions Tests)	4,579,975	97.0%

Please note that Table 4 may overstate compliance with testing requirements: the *average number of vehicles registered in the Commonwealth* can fluctuate from month to month, as vehicles are removed from the fleet and possibly replaced with new or out of state vehicles. By contrast, the *unique vehicles tested in 2013* counts all Massachusetts-registered vehicles that were tested during the year, even though they may only have been part of the fleet for a portion of the year. A compliance rate specifically for emissions tests in this period is not available, since the program does not track the number of registered vehicles that are exempt from the emissions testing requirement (e.g., those that are less than one year old, or are non-diesel and are older than model year 1998).

Of the 215,348 non-diesel vehicles that failed their initial OBD test, 29,266 (13.6% of the failing vehicles, and 0.8% of all non-diesel vehicles tested) did not pass a subsequent retest, or receive a waiver or economic hardship extension by March 31, 2014. (The retest would be considered a “final test” as per EPA’s requirement noted above). Of the 24,705 diesel vehicles receiving an OBD test, 191 (0.8%) did not pass a subsequent retest by March 31, 2014. Seven waivers from the requirement that failing vehicles pass an emissions re-test were granted in 2013 along with 59 economic hardship extensions (less than 0.1% of vehicles failing initial emissions tests).

The 29,457 vehicles (non-diesel and diesel) with no known outcome do not include vehicles that have expired or cancelled registrations. If those vehicles are included, the total number of vehicles with no known outcome increases to 41,219 (1.2%). Vehicles failing to receive safety inspections or emissions tests when required are subject to enforcement by RMV as well as state and local law enforcement agencies.

3.2 Registration File Audits and Compliance with Deadlines

40 CFR 51.366 (d) (2) (ii): [Registration denial based enforcement programs shall provide. . .] The number of registration file audits, number of registrations reviewed, and compliance rates found in such audits. . . .

40 CFR 51.366 (d) (3): Computer-matching based enforcement programs shall provide the following additional information:

(i) The number and percentage of subject vehicles that were tested by the initial deadline, and by other milestones in the cycle;

In 2013, RMV completed a scan of the vehicle registration database each month. These registration reviews examine the testing status of each registered vehicle to determine compliance with testing requirements. The results of these reviews are summarized in Table 5, below.

These registration reviews are snapshots in time, and therefore tend to understate compliance. Registration reviews determine whether the most recent inspection for each vehicle was performed within the last 12 months and was a “pass.” The I&M regulations allow up to 60 days for emissions repairs and re-testing. The registration reviews count vehicles that failed their emissions test as “out of compliance” if they did not complete repairs and pass a re-inspection by the time of the registration review, even though the vehicle may still be within its 60-day period. Also, registration reviews only capture compliance status at a particular moment in time. A vehicle that was tested seven weeks late in 2013 would ultimately have been in compliance but would have been counted as out-of-compliance on two registration reviews.

Table 5: 2013 RMV Registration Reviews

Date	Active Registrations	Number Non Compliant	Percent In Compliance
1/15/2014	4,680,364	431,477	90.8%
2/15/2014	4,676,668	461,146	90.1%
3/15/2014	4,679,804	460,445	90.2%
4/15/2014	4,692,888	456,425	90.3%
5/15/2014	4,710,970	448,207	90.5%
6/15/2014	4,731,002	451,625	90.5%
7/15/2014	4,739,100	461,022	90.3%
8/15/2014	4,751,150	453,727	90.5%
9/15/2014	4,756,314	456,012	90.4%
10/15/2014	4,755,895	454,268	90.4%
11/15/2014	4,736,542	449,202	90.5%
12/15/2014	4,738,681	451,374	90.5%
Average	4,720,782	452,911	90.4%

3.3 Parking Lot Audits

40 CFR 51.366 (d) (4) (iii): [Sticker-based enforcement systems shall provide . . .] The number of parking lot sticker audits conducted, the number of vehicles surveyed in each, and the noncompliance rate found during those audits.

In 2013, RMV conducted audits of vehicle stickers at 140 Massachusetts parking lots. Table 6 summarizes the results of these audits.

Table 6: 2013 Parking Lot Audits

Parking lot audits conducted	140
Vehicles surveyed	3,500
Vehicles with valid inspection stickers	3,391
Compliance rate	96.9%

3.4 Other Compliance Surveys

40 CFR 51.366 (d) (1) (vi): The number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found;

RMV conducted registration file audits and vehicle sticker audits at Massachusetts parking lots, as described in Sections 3.2 and 3.3 respectively. No other compliance surveys were conducted in 2013.

RMV recognizes the need to have a registration enforcement program to enhance its efforts to ensure that motorists comply with the requirements of the Massachusetts I&M Program. However, in today's era of unprecedented state resource limitations, RMV's aging information technology infrastructure cannot support a registration enforcement program while also meeting the data requirements of the other federal programs that RMV works under (which are increasing at unparalleled levels). RMV is continually exploring more cost-effective ways to get this job done in a proficient manner, and is working to replace its primary registration, license, and title database (Automated License and Registration System (ALARS)). The replacement is expected to provide significantly more efficient data processing, which would allow RMV to move forward with the development and implementation of a successful registration enforcement program.

The contract to modernize ALARS was awarded on March 7, 2013. During 2013, RMV staff worked closely with the contractor to define the business rules for the modernized database, including the business rules for implementing registration enforcement.

RMV continues to be committed to the registration enforcement requirement and is anxious to see it implemented. At the same time, RMV observes that Massachusetts enjoys a compliance rate of approximately 90% in database surveys and 97% in actual parking lot surveys, which is similar to the rates found in many other states.

3.5 Motorist Time Extensions

40 CFR 51.366 (d) (1) (v): The number of time extensions and other exemptions granted to motorists;

Massachusetts offers an economic hardship repair extension for non-commercial vehicles that do not pass their initial emissions test and a re-test. Motorists are eligible for this extension if they meet all of the following criteria:

- the cost of repairing or replacing a single component to correct a diagnostic trouble code (DTC) for the component is more than 1.5 times the repair expenditure limit applicable for the model year of the vehicle:
 - \$1,260 for vehicles five model years old or newer;
 - \$1,110 for vehicles over five but not exceeding 10 model years old; and
 - \$960 for vehicles over 10 model years old.

- the vehicle does not qualify for a waiver;
- the economic hardship repair extension is not for an emissions inspection or re-inspection associated with initial registration or transfer of ownership;
- MassDEP or its designee agrees with the findings of the registered repair technician regarding the cause of the failure, and the appropriateness and reasonableness of the repair estimate;
- the motorist has used all relevant warranty coverage including recalls to repair the vehicle;
- all safety inspection requirements are met;
- the vehicle is registered with RMV as a private passenger motor vehicle or auto home; and
- the emission control system is present and there is no evidence of tampering.

An economic hardship repair extension is valid until the vehicle's next emissions inspection. This extension cannot be renewed or extended: at the end of the extension period, the vehicle must pass its emissions test.

In 2013, 59 economic hardship extensions were issued.

3.6 Waivers of Emission Standards

A non-commercial vehicle that does not pass a re-test is eligible for a waiver of the emissions standards if the following criteria are satisfied:

- At least the following amount has been spent for a Registered Emissions Repair Technician to repair the vehicle's emissions system (including labor and materials)⁸:
 - \$840 for a vehicle five model years old or newer
 - \$740 for a vehicle more than five but less than ten model years old
 - \$640 for a vehicle more than ten model years old
- The vehicle's emissions-control system must be intact with no evidence of tampering;
- The vehicle must have passed its safety inspection within the previous 60 days; and
- The vehicle's OBD system must connect successfully with the inspection station's computer, must be "ready" for its re-test, and cannot be showing DTCs for engine misfire, catalytic converter efficiency failure, or energy storage for a hybrid vehicle.

⁸ Only the cost of repairs performed by a Registered Emissions Repair Technician qualifies for a waiver. Expenditures for repairs made by non-registered technicians are not eligible.

To obtain a waiver, the motorist must bring the vehicle to a Motorist Assistance Center (MAC) for an evaluation of eligibility. If the MAC determines that the vehicle meets all the requirements for a waiver, the MAC provides a waiver authorization, which the motorist must bring to an inspection station to obtain a valid sticker.

A waiver is valid until the vehicle's next emissions inspection.

In 2013, seven waivers were issued.

3.7 Preventing False Registration by Motorists

40 CFR 51.366 (d) (2) (i): [Registration denial based enforcement programs shall provide . . .] A report of the program's efforts and actions to prevent motorists from falsely registering vehicles out of the program area or falsely changing fuel type or weight class on the vehicle registration, and the results of special studies to investigate the frequency of such activity; and

40 CFR 51.366 (d) (3) (ii): [Computer-matching based enforcement programs shall provide . . .] A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity;

40 CFR 51.366 (d) (4) (ii): [Sticker-based enforcement systems shall provide . . .] A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity;

The reporting requirements for efforts to prevent false registration are not relevant to Massachusetts because:

- All of Massachusetts is covered by the program;
- All vehicles are required to be inspected annually for either safety or safety and emissions;
- If a motorist falsely reports fuel type or weight in order to avoid an emissions inspection, the inspector enters corrected data based on his or her examination of the fuel cap and the vehicle information appearing on the vehicle's door label. In addition, the workstation uses a separate vehicle identification number (VIN) decoder to pre-populate critical fields (model year, fuel type, and GVWR) that determine whether a vehicle receives an emissions test. Changes to these fields by inspectors are flagged by the software for investigation by RMV.

3.8 Additional Sticker-Related Activities

40 CFR 51.366 (d) (4): Sticker-based enforcement systems shall provide the following additional information:

(i) A report on the program's efforts to prevent, detect, and enforce against sticker theft and counterfeiting, and the frequency of this type of activity;

To support the state and local police efforts to enforce inspection-sticker requirements, RMV mailed a detailed memorandum to state and local police departments in the Commonwealth regarding sticker characteristics for 2013.

In 2013, state and local police issued 63,796 inspection sticker motor-vehicle violations.

4 PERFORMANCE OF EMISSIONS TEST EQUIPMENT

The Massachusetts Vehicle Check program uses two methods to ensure that the emissions test equipment is operating properly:

1. The workstations have been designed to run daily “self checks” and self checks after vehicles fail to communicate so that equipment with significant issues is identified (and repaired) as quickly as possible,
2. RMV field investigators audit equipment performance in the field.

4.1 OBD Test Equipment Self Checks

Workstations have been designed to run several daily “self checks” to ensure that they are operating properly. Every 24 hours, the workstation is programmed to require the inspector to perform equipment checks that ensure the functionality of the OBD scan tool, printer, barcode scanner, and, if equipped, diesel opacity meter. The self checks include:

- A daily “loopback” check that tests the continuity of the OBD scan tool cable and pins in the Diagnostic Link Connector (DLC). If a loopback test fails, the workstation is locked out from performing OBD tests until a loopback check can be passed. Inspectors are also required to perform a loopback check prior to a vehicle failing its emissions test for failure to communicate with the workstation. This is to verify that the emissions test failure is not due to an equipment-related problem.
- A daily printer/barcode scanner check that tests print quality and the proper function of the barcode scanner. The workstation prints sample 1D and 2D barcodes and sample Vehicle Inspection Report (VIR) text. The inspector examines the quality of the printed sample and records a failure if the text is not legible. If the print quality is good, the inspector is then prompted to scan the 1D and 2D barcodes. If the workstation cannot read the barcodes, the workstation records a failure. Failure to read the barcodes can be caused by a faulty barcode scanner or poor print quality. If the printer/barcode scanner check fails, the workstation is locked out from performing all inspections until it can pass the check.
- For workstations equipped with diesel opacity meters, the three daily self checks are electronic zero and span; accuracy at 37.5% opacity by extinguishing 3 of 8 light pulses; and current draw of the sample fan. All three checks have tolerances which must be met to pass. If any of the three checks fails, the workstation is locked out from performing diesel opacity tests until all three checks pass.

4.2 OBD Test Equipment Audits

40 CFR 51.366 (c) Quality control report. ...Basic statistics on the quality control program for January through December of the previous year, including:

- (1) The number of emission testing sites and lanes in use in the program;
- (2) The number of equipment audits by station and lane;
- (3) The number and percentage of stations that have failed equipment audits; and
- (4) Number and percentage of stations and lanes shut down as a result of equipment audits.

In Massachusetts' decentralized program, the number of workstations is equivalent to the number of lanes in a centralized testing program. Most Massachusetts stations have only one workstation.

In 2013 RMV field investigators conducted 5,835 audits of the OBD emissions test equipment used to conduct vehicle inspections in the Commonwealth.

In 2013, 1,641 stations and 1,695 workstations (lanes) conducted emissions inspections throughout the period.⁹ A total of 1,838 stations and 1,874 workstations conducted at least one emissions test at some time during the year.

Thirty-three RMV field investigators performed a total of 5,835 OBD test equipment audits in 2013. This covered 1,769 different workstations (lanes) and 1,721 different inspection stations, with 1,611 workstations being audited more than once.

The results of these audits are described in detail in Attachment D, and are summarized here.¹⁰

4.3 Audit Results for OBD Test Equipment

To pass an overall audit, the workstation cannot fail any of the audit's individual parts.

Table 7 describes the results of the workstation OBD test equipment audits conducted in 2013. It summarizes the workstation audit results for each individual OBD audit part and the overall workstation audit results.

⁹ A station or workstation must have conducted at least one emissions inspection in each month in 2013 to be counted as "testing throughout the period."

¹⁰ The OBD test equipment audits focus on workstation performance. In this report, the data for 40 CFR 51.366(c)(3) is provided for workstations, rather than for stations. A summary of failures for stations can be found in Attachment D, 2013 Quality Control Report.

Table 7: 2013 OBD Test Equipment Audit Results

Audit Part	2013 Audit Results			
	Pass	Fail	Tested	Failure Rate
Functional Checks				
Communications Check	5,830	5	5,835	0.1%
Accuracy Check (including revolutions per minute (RPM))	5,828 ¹¹	0	5,828	0.0%
Audits Failing One or More Functional Checks	5,830	5	5,835	0.1%
Visual Cable and Connector Check	5,801 ¹²	31	5,832	0.5%
Overall Audit Results (Audits that failed one or more audit parts)	5,801	34	5,835	0.6%

Workstations failed a functional check on five audits: All five were communication-check failures.

For the five failing communications checks:

- Two of the workstations that failed to communicate had already been automatically locked out from performing inspections by the workstation software prior to the audit being conducted. One of these two stations had opened a service ticket the day before.

Two of the workstations failing for communication also failed the visual cable and connector check. (The visual results for the remaining three audits with communication failures were not recorded due to a software bug that was corrected during the year.)

Workstations failed the visual cable and connector check on thirty-one audits. All but two of these workstation audits passed for both communication and accuracy. Two workstations with failing visual audits had already been automatically locked out from performing inspections by the workstation software prior to the audit being conducted.

Inspection stations are required to open service request tickets for all audit failures. Field investigators continue to monitor the cable and connector conditions for all stations and issue station violations if the stations are unresponsive to repair requirements.

No workstations were manually shut down as a result of the equipment audit failures. Four workstations were automatically locked out from performing inspections by the workstation software prior to the audits, preventing inspections from occurring with defective equipment.

¹¹ An accuracy check could not be done for the five workstation audits that failed for communication. The results for the accuracy check were excluded for two additional audits because the OBD simulator was not working correctly.

¹² Due to a bug in the software that was corrected during 2013, the visual cable and connector check could not be recorded in the database for four of the five workstation audits that failed the communication check.

5 STATION AND INSPECTOR OVERSIGHT

The Massachusetts I&M Program uses overt, digital and covert audits to assess station and inspector performance. The results of each type of audit conducted in 2013 are described in this section.

5.1 Overt Performance Audits

40 CFR 51.366 (b) (2): The number of inspection stations and lanes operating throughout the year:

- (i) Receiving overt performance audits in the year;
- (ii) Not receiving overt performance audits in the year;

RMV conducts regular site visits/performance audits to determine if the inspectors are correctly performing all tests and if the station's physical conditions continue to meet program requirements. RMV typically visits inspection stations at least three times during the year, and performs additional visits to follow up on past problems or to investigate stations or inspectors based on consumer complaints or data analysis.

The Contractor maintains records of all inspections in a database to which MassDEP and RMV have access. RMV conducts monthly "digital audits" before visiting stations, to identify stations that may need investigation. A "digital audit" is a query of the database for information that may indicate issues warranting attention during the site visit. Digital audit items include the station's emissions testing and inspection failure rates and vehicle characteristics recorded during the inspection that do not match the vehicle information in the registration database.

RMV site visits cover a wide range of items including:

- Observing inspectors performing an inspection;
- Examining station and inspector licenses;
- Collecting voided inspection stickers and checking to see that stickers are stored in a secure location;
- Examining the inspection equipment and bay;
- Supplementing the inspector's training; and
- Investigating consumer complaints and/or anomalous digital audit findings.

RMV staff prepares a written report summarizing the results of each inspection. Violations of policies or regulations identified at site visits are forwarded to RMV headquarters for possible enforcement action.

In 2013, RMV conducted 8,382 overt station visits/audits. All 1,838 stations and 1,874 workstations that conducted emissions inspections during this period received at least one audit.

5.2 Digital Audits

In addition to RMV's overt station visits/audits, in 2013 MassDEP continued an initiative that started in late 2008 to use digital audits of the inspection database to identify suspected improper emissions inspections, and in many cases, to determine that an improper inspection occurred. When the data indicated that an improper inspection most likely occurred, MassDEP staff visited the station to confirm the accuracy of digital audit findings and to gather more information about the unusual situations that had been identified. RMV staff participated in many of these station visits.

During 2013, the program had an increased focus on data mining to identify fraudulent inspection practices. During this period MassDEP transitioned from only reviewing stations that had multiple potential violations in a given month to reviewing all potential violations for the entire network during the month.

These digital audits were an effective tool for identifying improper inspections, particularly cases in which stations were "clean scanning" by conducting OBD tests on different vehicles than the ones brought in for inspection, and using the results from the fraudulent tests to issue stickers. Digital audits were the initial basis for six enforcement cases settled against specific inspectors and stations by the Massachusetts Attorney General's Office or by MassDEP and RMV in 2013. The digital audits were supplemented by findings from the overt station visits. The enforcement actions reported in Section 5.4 include the results of these cases. Financial penalties resulting from these cases are reported in Section 5.4.2.

In addition to digital audits to identify fraudulent inspections, MassDEP increased the data mining for vehicles that appeared tampered based on their OBD results. These vehicles are flagged so that they automatically fail their next regular inspection and receive a referral to a MAC for further investigation. If the MAC determines the vehicle has been tampered, the motorist is required to return the vehicle to stock condition before it is allowed to be re-inspected.

5.3 Covert Audits

Covert audits, or "covert performance audits," are under-cover inspections done with vehicles set to fail one or more parts of the emissions test. This section summarizes covert audits performed by the Contractor. While RMV staff also conduct covert audits as part of their enforcement activities, the results of their covert audits are not included in the following tables.

In 2013 the Contractor performed 1,464 covert vehicle audits. Of these, nine were scheduled in response to Agency requests and the remaining 1,455 audits were selected randomly or targeted based on data analysis. Some stations received more than one covert audit, as summarized in Table 8.

Table 8: 2013 Covert Audits per Station

Number of Audits Per Station	Count of Stations
1	1,117
2	172
3	1
Total Number of Stations Audited	1,290
Total Number of 2013 Audits	1,464

5.3.1 Covert Auditors and Covert Vehicles

40 CFR 51.366 (b) (8): The total number of covert vehicles available for undercover audits over the year;
 (b) (9): The number of covert auditors available for undercover audits.

Covert audit vehicles are selected to represent the range of OBD communication protocols. Seven vehicles were used for covert audits in 2013, representing five communication protocols:

- CAN,
- KWP (ISO 14230-4),
- ISO (ISO-9141),
- VPW and
- PWM.

In 2013, six covert auditors conducted covert vehicle audits.

5.3.2 Number of Covert Audits Conducted in 2013

40 CFR 51.366 (b) (2): The number of inspection stations and lanes operating throughout the year: . . .
 (iii) Receiving covert performance audits in the year;
 (iv) Not receiving covert performance audits in the year;

Table 9 summarizes the number of covert audits conducted during 2013 for each type of inspection station. To be considered “operating throughout the year” a station must have conducted at least one emissions test during each month of the year. Only public stations can receive covert vehicle audits because fleet stations only test vehicles that are part of the company’s fleet, making it impossible for the Contractor to present a covert (or “undercover”) vehicle for testing. Also, covert vehicle audits are not conducted at stations that inspect only heavy duty vehicles.

Table 9: Number of Inspection Stations and Covert Audits in 2013

		2013 Covert Audits			Stations NOT Receiving Covert Audits
		2013 # of Stations	Audited Stations	# Of Audits	
Operating Throughout the Year	Fleet stations	96	0	0	96
	Public stations	1,545	1,223	1,390	322
	All stations	1,641	1,223	1,464	418
Operating Part of the Year	Fleet stations	47	0	0	47
	Public Stations	150	67	74	83
	All stations	197	67	74	130
TOTAL		1,838	1,290	1,464	548

Table 10 shows the total number of workstations in the inspection network and the number of workstations that received covert audits. A workstation is counted as “operating throughout the year” if it conducted at least one emissions inspection each month of the year.

Since the inspector is required to drive the vehicle into the inspection bay during a covert audit, the covert auditor has no control over which workstation is used at stations with multiple workstations.

Table 10: Number of Workstations and Covert Audits in 2013

	# of Workstations	Audited Workstations	# of Audits	Workstations Not Audited
Operating Throughout the Year	1,695	1,232	1,398	463
Operating Part of the Year	179	60	66	119
TOTAL	1,874	1,292	1,464	582

5.3.3 Covert Audit Overview

A “false pass” on a covert audit is an inspection that passes a vehicle that was set to fail its OBD test.

Covert vehicles are set to fail the OBD test in a variety of ways including:

- Malfunction Indicator Lamp (MIL) commanded on and DTCs being set,
- failing to communicate, and
- failing because the readiness monitors are not set.

In addition to these three types of OBD failures, the MIL bulb on the dashboard was made inoperable for some of the vehicles that were set to fail with DTCs set.

For most covert audits, the vehicles were also set to fail the safety test.

5.3.4 Covert Audit Results by Type of OBD Failure

40 CFR 51.366 (b) (3): The number of covert audits: (i) Conducted with the vehicle set to fail per test type; (ii) Conducted with the vehicle set to fail any combination of two or more test types (iii) Resulting in a false pass per test type; (iv) Resulting in a false pass for any combination of two or more test types;
--

Since OBD tests are the only type of emissions test covered by the covert audit program, there were no audits set to fail two or more test types. For the 1,464 covert audits with OBD set to fail, there were no false passes.

5.4 Station and Inspector Enforcement

40 CFR 51.366 (b) (6): The number of hearings: (i) Held to consider adverse actions against inspectors and stations; and (ii) Resulting in adverse actions against inspectors and stations;

40 CFR 51.366 (b) (4): The number of inspectors and stations: (i) That were suspended, fired, or otherwise prohibited from testing as a result of covert audits; (ii) That were suspended, fired, or otherwise prohibited from testing for other causes; and
--

40 CFR 51.366 (b) (2): The number of inspection stations and lanes operating throughout the year: . . . (v) That have been shut down as a result of overt performance audits;
--

In 2013, RMV issued 394 written violations to stations resulting in 280 hearings. Of the hearings held, 117 resulted in the station’s license being suspended or revoked. Of the 18 suspensions and revocations that were appealed, 17 were affirmed or were modified with suspensions, resulting in 116 station license suspensions or revocations.

RMV issued 323 written violations to inspectors resulting in 253 hearings. Of the hearings held, 89 resulted in the inspector’s license being suspended or revoked. Of the seven suspensions and revocations that were appealed, seven were affirmed or were modified with suspensions, resulting in 89 inspector license suspensions or revocations.

Tables 11 and 12 summarize the results of RMV’s hearings and enforcement actions for stations and inspectors in 2013. Some stations and inspectors appealed hearing results that were suspensions or revocations of their licenses. The results of the appeals are summarized in Table 13. Table 14 summarizes all adverse actions, including license suspensions, license revocations, and formal warnings.

Table 11: Number of Written Violations and Subsequent Actions Taken Against Stations and Inspectors in 2013

Type of Action Following Written Violations	Inspection Stations	Inspectors
Actions Following Written Violations		
Warning Letters (no hearing)	88	62
Violations Filed (no action or hearing)	15	4
Hearings Held (no appeal)	262	246
Hearing Held and Results Appealed	18	7
2013 Written Violations Unresolved (As of 3/19/14, open, or hearing not yet held)	11	4
	394	323

Table 12: Types of Enforcement Resulting from 2013 Hearings for Stations and Inspectors

Types of Enforcement Resulting from Hearings (Excluding hearings where the results were appealed)	Inspection Stations	Inspectors
Total Number of Hearings Held	262	246
License Revocations	5	5
License Suspensions	94	77
Warnings	132	138
<hr/>		
Total Number of Adverse Actions	231	220
<hr/>		
Other Action (e.g., abeyance, surveillance)	3	5
No Action	28	21

Table 13: Outcomes of Appeals of Hearing Results

Outcomes from the Board of Appeals	Inspection Stations	Inspectors
Total Number of Appeals	18	7
Adverse Actions		
Affirmed RMV Decision (suspended or revoked)	5	4
Modified RMV Decision (reduced suspension)	12	3
<hr/>		
Total Number of Adverse Actions	17	7
<hr/>		
Decisions Pending at RMV's Board of Appeals	0	0
Board of Appeals Vacated RMV Decision	1	0

Table 14: Total Adverse Actions Against Stations and Inspectors in 2013

Adverse Actions	Inspection Stations	Inspectors
Warning Letters (no hearing)	88	62
Total Number of Adverse Actions as a Result of Hearings (Hearing results that were not appealed)	231	220
Total Number of Adverse Actions - Board of Appeals ¹³	17	7
Total Adverse Actions for 2013	336	289

¹³ Some of the Board of Appeals cases for 2013 violations were resolved in 2014.

5.4.2 Fines Collected

40 CFR 51.366 (b) (4): The number of inspectors and stations: . . . (iii) That received fines; 40 CFR 51.366 (b) (7): The total amount collected in fines from inspectors and stations by type of violation;

In 2013, Massachusetts settled six enforcement cases against five inspectors and three stations, for a total of \$156,025 in penalties assessed.¹⁴ Of the total penalty assessment, \$86,000 was stayed as long as the station or inspector complies with all program requirements during the period covered by the settlement. Each settlement agreement provides a schedule for the collection of the penalties.

Five of the settled cases included violations due to OBD “clean scans.” A clean scan is a fraudulent OBD test conducted on a motor vehicle other than the vehicle reportedly tested, or using an electronic device designed to simulate a vehicle’s OBD system.

For the remaining settled case, the inspector and his inspection company pleaded guilty to issuing state inspection stickers without conducting required safety and emission inspections of commercial vehicles, including school buses, tractor trailers and construction equipment. The defendant was sentenced to sixty days in the House of Corrections followed by five years of probation. Under the conditions of probation the inspector is prohibited from ever being involved directly or indirectly with the inspection of motor vehicles and prohibited from handling or using RMV documents directly or indirectly in any way.

5.4.3 Station Compliance Documents - Issued and Missing Documents

40 CFR 51.366 (d) (1) (iii): The total number of compliance documents issued to inspection stations; (iv) The number of missing compliance documents;
--

Inspection stations are responsible for the compliance documents (stickers) shipped to them. Failure to properly account for unused stickers may subject a station or inspector to enforcement action.

The sticker accounting system is intended to allow the tracking of all stickers from the time they are delivered to the inspection stations to when they are placed on vehicles or are voided and collected by RMV Field Investigators. During 2013, a few remaining issues with the sticker accounting software continued to impact the Agencies’ ability to accurately determine the final status of all stickers:

- For stations that were no longer in business, RMV field investigators were not able to record collected stickers in the database.
- During 2013, full books of stolen stickers could not be recorded in the database.

¹⁴ In two of the cases, settled by the Attorney General’s Office, both inspector and station sanctions were included in a single settlement.

- Some stickers collected by RMV could not be recorded in the software as collected for disposal because the software did not identify the stickers as needing collection and allow RMV to record their collection.

In 2013, 5,416,500 stickers were issued to inspection stations, approximately 5,055,160 stickers were placed on vehicles, and 318,919 stickers were known to have been picked up by RMV and destroyed. This includes end-of-year overstock, as well as individual stickers that had been voided by the stations.

The remaining 42,421 stickers are regarded as unaccounted for, since the sticker management software cannot accurately account for them. However, many of these stickers were full packages of stickers (100 stickers per package) that may have been collected by RMV from stations that were no longer in business but could not be recorded in the sticker accounting system.¹⁵ The remainder was reported as stolen, was missing when RMV attempted collection, or was individual stickers that could not be recorded as collected by RMV in the sticker accounting system.

In spite of these issues, the vast majority of stickers that were issued to stations were accounted for. The following table summarizes the sticker accounting for 2013 stickers.

Table 15: 2013 Inspection Stickers

	Number of Stickers
Total Number Printed	5,500,000
Assigned to Station	5,416,500
Total Used (on vehicles)	-5,055,160
Collected and destroyed by RMV (as recorded by software)	-318,919
Remaining "unaccounted for"	42,421 ¹⁶

RMV continues to investigate and take enforcement action against stations and inspectors who are unable to account for stickers that are known to have been voided due to printing errors or mishandling damage, or otherwise voided by the station through the workstation software.

¹⁵ For example, 22,000 of the stickers that were not marked as voided or collected were from forty-six stations that were not active as of May 2014.

¹⁶ Of these 42,421 stickers, 607 were reported stolen using the workstation software and an additional 2,400 stickers were reported missing or stolen to the stations' help desk. In addition, 1,400 stickers that were not recorded as shipped to stations were reported missing or stolen from the warehouse.

6 EMISSIONS TEST RESULTS

6.1 Emissions Tests and the Massachusetts Fleet

The Massachusetts I&M Program administered OBD and opacity emissions tests during all of 2013.

In 2013, 215,348 (6.2%) of the 3,481,900 unique non-diesel (gasoline, natural gas, etc.) vehicles receiving initial OBD tests failed their initial tests. Of the 24,705 diesel vehicles receiving an initial OBD test, 1,722 (7.0%) failed their initial tests. Of 92,359 diesel vehicles receiving an initial opacity test, 1,561 (1.7%) failed their initial opacity tests. The Massachusetts Program requires that failing vehicles be repaired and re-tested within 60 days of failing their initial emissions test.

Table 16 summarizes the failure rates for initial OBD tests in Massachusetts in 2013:

Table 16: 2013 Failure Rate for Initial Emissions Tests by Test Type and Fuel

Test Type	Fuel	Failure Rate
Opacity	Diesel	1.7%
OBD	Non-Diesel	6.2%
OBD	Diesel	7.0%
All Initial OBD Tests		6.2%
All Initial Emissions Tests		6.1%

Of the initial emissions test failures, please note:

- Approximately 95.9% of retested vehicles passed the retest.
- 29,457 (13.6%) of vehicles that failed an initial OBD test and were still registered in Massachusetts had not passed a retest, obtained a waiver or been granted a hardship extension by March 31, 2014.¹⁷
- Seven waivers and 59 hardship extensions were granted (less than 0.1% of the vehicles that failed their initial emissions test).

Details of all emissions test results from are included in Attachment B.

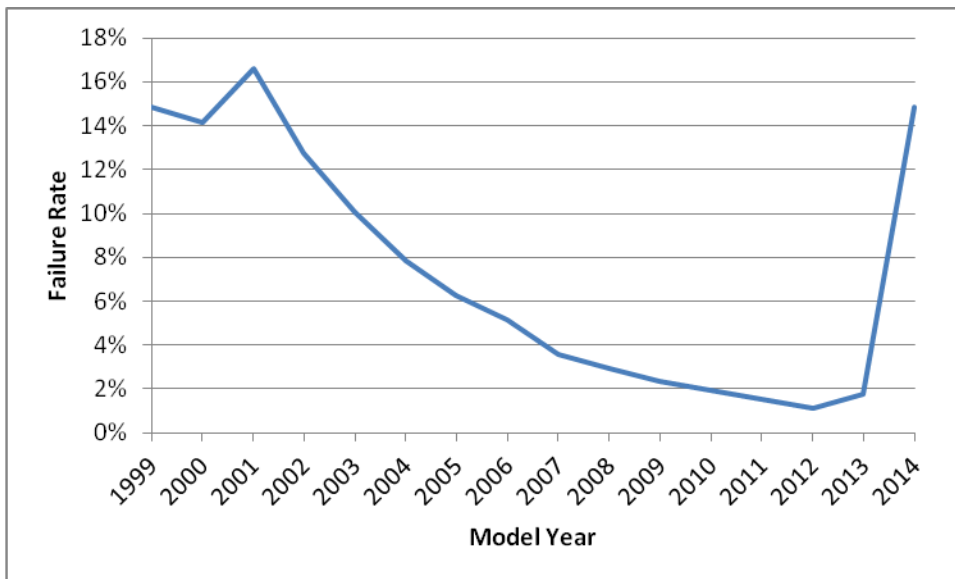
¹⁷ 41,219 vehicles failed an initial OBD test and had not passed a retest by March 31, 2014 including vehicles with expired or cancelled registrations.

A limited number of vehicles failed their initial inspections because their OBD computer could not communicate with the OBD scan tool and workstation equipment. In these cases, the workstation allows an alternative test to be performed, which consists of performing a Key-On Engine-Off (KOEO) bulb check to see whether the MIL bulb is functioning and a Key-On Engine-Running (KOER) to see if the MIL is commanded on. Failing either check will result in an OBD test failure.

In 2013, 77 of the 3,506,605 OBD tests were alternative tests. Attachment B describes the particular years, makes, models and counts of vehicles receiving these tests. The Contractor and the Agencies continue efforts to determine why the OBD scan tool has difficulty communicating with certain vehicles to minimize the number of alternative tests.

Figure 1 shows the initial OBD failure rates by model year. As can be seen, the age of the vehicle has a significant impact on failure rate. Please note that the spike in the failure rate in for model year 2014 is based on a very small sample size (572). While this includes some new vehicles that have changed ownership within the first year, most of these failures were for readiness for new vehicles that inadvertently received an emissions test due to inspector error. The Massachusetts I&M Program is not designed to achieve a specific overall failure rate or a specific failure rate for any particular test or type of vehicle.

Figure 1: 2013 Failure Rates by Model Year – Initial OBD Tests Only



6.2 Overall Conclusions about Program Operation During 2013

2013 was the fifth full year of operation for the updated Massachusetts I&M Program. The program is meeting its goals of a comprehensive test that provides the emission reductions needed for the Massachusetts SIP, is convenient to motorists, ensures vehicle safety, and works well in local inspection shops.

Most vehicles that failed their initial emissions test were repaired successfully and passed their re-test. The program continues to issue a very small number of waivers, far below the commitment in the Massachusetts SIP to limit waivers to no more than 1% of vehicles that fail an initial emissions test.

Attachment A: Index of Report Pages Relevant to EPA Regulation Sections

**Massachusetts Enhanced Emissions and Safety Test
Inspection and Maintenance Program**

Attachment A: Index of Report Pages Relevant to EPA Regulation Sections

Rules

40 CFR 51.366 (a) (1), (2) & (5)	Attachment B
40 CFR 51.366 (a) (3) &(4)	Attachment C
40 CFR 51.366 (b) (1) (i) & (ii)	6
40 CFR 51.366 (b) (2) (i) & (ii)	19
40 CFR 51.366 (b) (2) (iii) & (iv)	21
40 CFR 51.366 (b) (2) (v)	23
40 CFR 51.366 (b) (3) (i), (ii), (iii) & (iv)	23
40 CFR 51.366 (b) (4) (i) & (ii)	23
40 CFR 51.366 (b) (4) (iii)	26
40 CFR 51.366 (b) (5)	7
40 CFR 51.366 (b) (6) (i) & (ii)	23
40 CFR 51.366 (b) (7)	26
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40 CFR 51.366 (b) (9)	21
40 CFR 51.366 (c)	Attachment D
40 CFR 51.366 (c) (1), (2), (3), (4)	17
40 CFR 51.366 (d) (1) (i)	5
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40 CFR 51.366 (d) (1) (iii) & (iv)	26
40 CFR 51.366 (d) (1) (v)	12
40 CFR 51.366 (d) (1) (vi)	12
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40 CFR 51.366 (d) (2) (ii)	10
40 CFR 51.366 (d) (3) (i)	10
40 CFR 51.366 (d) (3) (ii)	14
40 CFR 51.366 (d) (4) (i)	14
40 CFR 51.366 (d) (4) (ii)	14
40 CFR 51.366 (d) (4) (iii)	11

Attachment B: Detailed 2013 Emissions Test Data

**Massachusetts Enhanced Emissions and Safety Test
Inspection and Maintenance Program**

See data disk

Attachment C: 2013 Test Data by Station

**Massachusetts Enhanced Emissions and Safety Test
Inspection and Maintenance Program**

See data disk